

## ROMAN HELMETS AND OTHER MILITARIA FROM VECHTEN

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### INTRODUCTION

Vechten (Fig.1), which lies on the Old Rhine to the SE of Utrecht, has long been familiar as an exceptionally rich find spot of Roman antiquities.<sup>1</sup> The unsystematic collection of the relics in the 17th and 18th centuries has unfortunately meant that almost all of these early finds have since disappeared without trace.

In 1829-30 and 1892-94 official excavations took place, though with disappointing results, and the anticipated Roman military defences failed to materialize. This success was left to J.H. Holwerda who excavated in 1914 and later. Numerous narrow trenches enabled him and his assistant, A.E. Remouchamps, to map the stone period of the fort. Traces of a larger camp, dating to the Augustan period, were also exposed. W.C. Braat (1936-37) and A.E. van Giffen (1946-47) examined these early features more extensively, and the latter also excavated a considerable length of the eastern stone defensive wall with its gateway and the corner turrets (Fig.2). A summary of the excavations in and around Vechten up to 1947 is presented by Wells.<sup>2</sup>

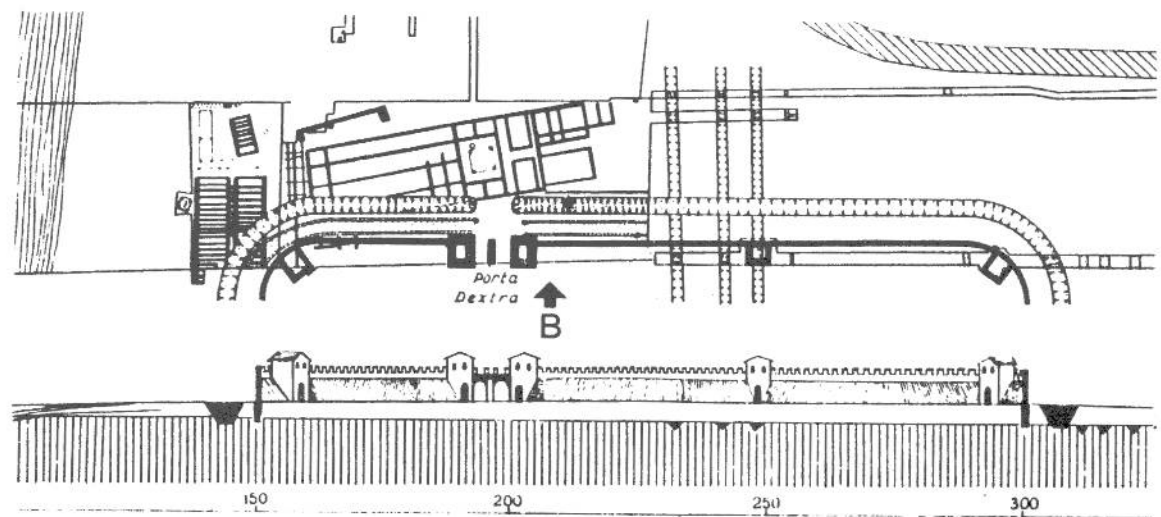
Excavations for a pipe-line and a ditch cut through an area to the NE of the Roman fort in 1969 and 1970 and from reports and observations at the time it appeared that important Roman features could be expected on the site. Excavations carried out by the State Service for Archaeology (ROB) in 1970 revealed thick humic deposits containing settlement debris as well as considerable numbers of upright and fallen posts in (and along?) a silted river channel of the Roman period.<sup>3</sup> Similar deposits, with refuse and posts were also exposed in 1976 and 1977 at the widening of the motorway (Rijksweg 12) which cuts this area (Fig.3, at 5).<sup>4</sup>

All these excavations brought massive amounts of Roman material to light. For the most part these finds are housed in the Rijksmuseum van Oudheden in Leiden, the Provinciaal Oudheidkundig Museum in Utrecht and the Provinciaal Archeologisch Depot in Utrecht. Material turned up in 1976, 1977 and later is in the possession of about 70 individual private collectors.

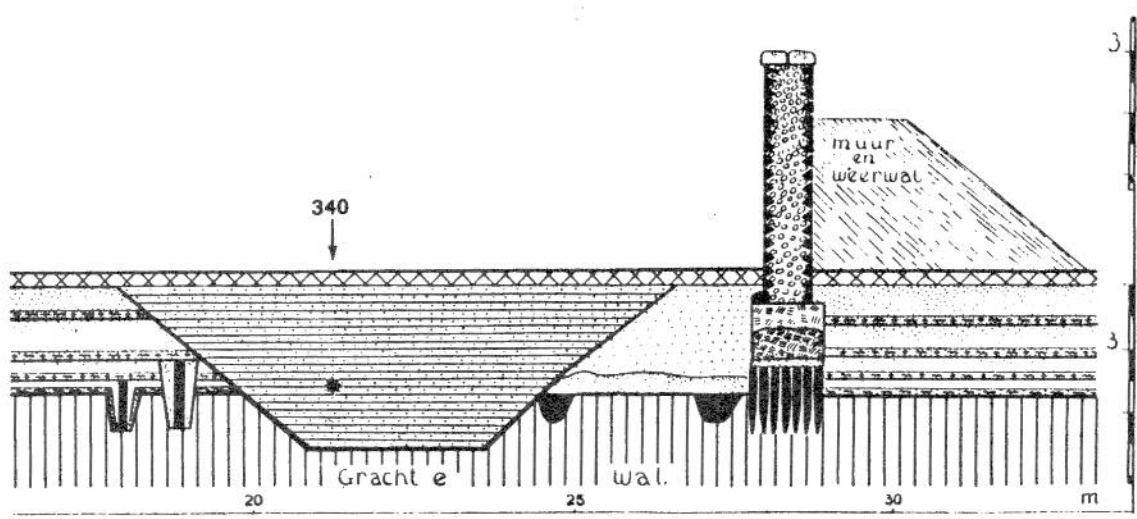
Amongst the exceptionally rich and varied material collected from Vechten is a small amount of military equipment, which will be briefly described below. The group is composed of pieces of Roman cavalry and infantry helmets and a fragment of a metal chamfron. Of the smaller metalwork, a few scales of lorica squamata, a fragment of mail (lorica hamata) and hooks of plate armour (lorica segmentata) are especially noteworthy.



**Fig.1:** After Webster 1981, fig. 3, with additions

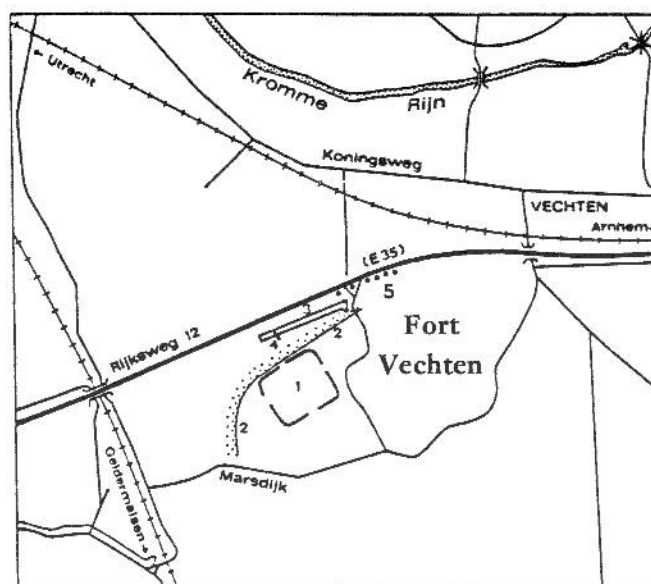


A



B

**Fig.2:** Vechten, the excavations of 1946-47, after Van Giffen 1944-48, pl. 10. In ditch e (see section fig 2B) the find location of no. 340 is marked



**Fig.3:** Vechten, the 1970 excavations (3,4) and the widening of the motorway in 1976-77 (at 5). After Van Tent 1973 and 1976, with additions.

#### CAVALRY SPORTS HELMETS

##### 1. Fig.4.

Face of a masked helmet. Iron, sheathed with bronze<sup>5</sup> sheet which is bent over to the back with a small overlap. The tip of the nose is damaged. Remains of the hinge on the centre of the brow. A small hole has been drilled at both sides just above the brows and at each side of the jaw.

In shape, the mask is a bisected oval, covering only the front of the face and thus differing from helmet type D, to which Robinson nevertheless reckons it.<sup>6</sup> Masks belonging to this helmet type almost invariably cover the entire face as well as both ears.<sup>7</sup> A bronze plated mask from Köln<sup>8</sup> is possibly comparable, but it is so poorly preserved that it is now impossible to tell from the illustration whether ears were originally present or not. Robinson suspects that the four holes at the edges of the Vechten specimen are secondary features, though both Klumbach and Garbsch are of the opinion that these holes served to attach the cheek-pieces.

Length: 16cm, width: 13.8 cm.

Found at the construction of Fort Vechten (formerly De Burg) in 1867-69. Rijksmuseum van Oudheden in Leiden, inv. no. VF\* 1047

References: This face mask has already been illustrated and described on numerous occasions, e.g. BENNDORF 1878, 39, no. 28, Taf. XIII, 1 a-b; KLUMBACH 1974, 64, no. 54, Taf. 49; ROBINSON 1975, 123, Pl. 358; GARBSCH 1978, 63-4, no. 07, Taf. 18.2; STUART 1986, 114-5, Pl. 159.



**Fig.4:** Vechten 1867-69. Face mask no. 1 (from Benndorf 1878, Taf.XIII 1a-b) (scale, approx. 1:1.5).

2. Figs.5-8.

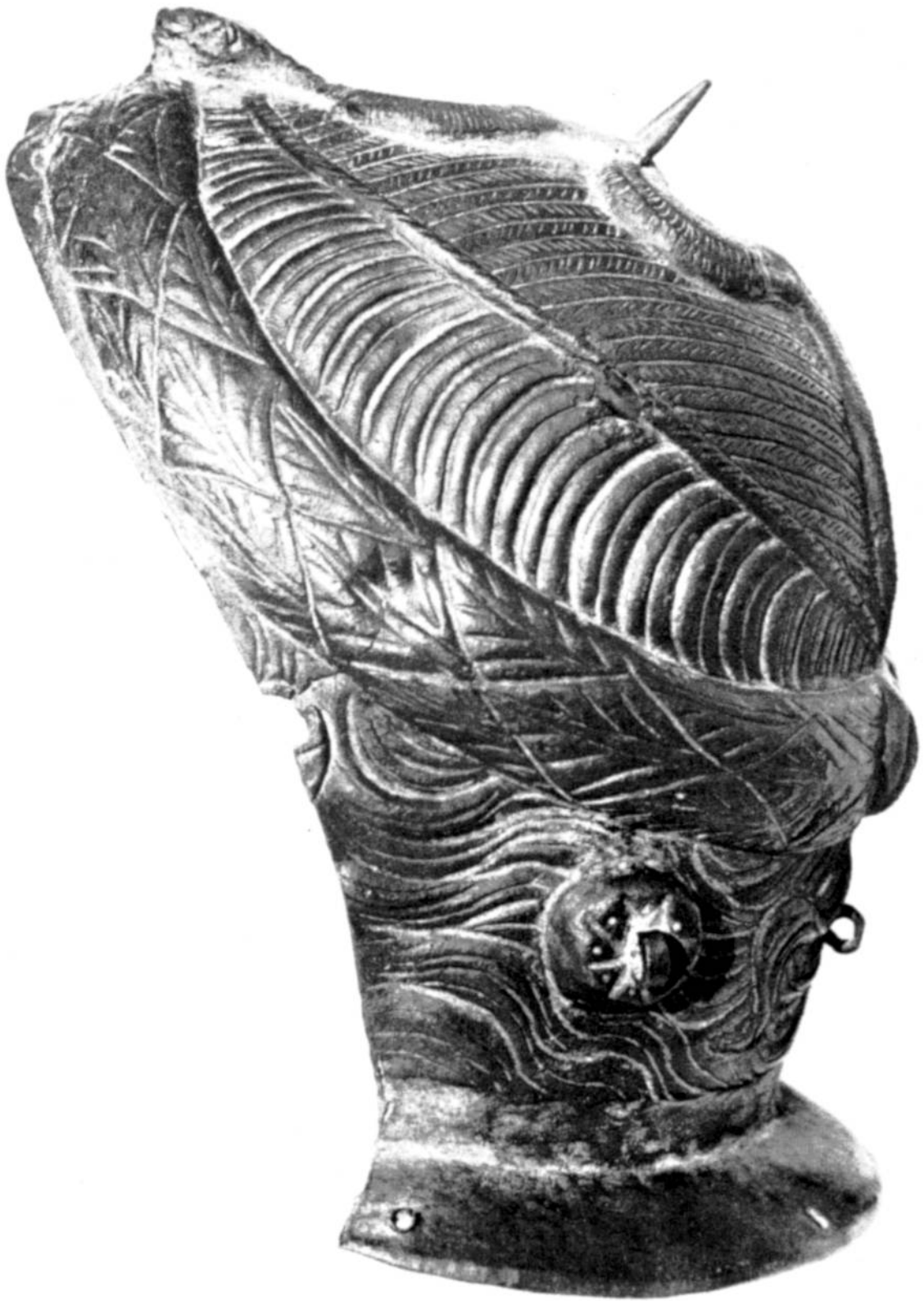
Skull-piece of a masked helmet. Iron. A couple of spots rusted through, otherwise in good condition.

Embossed relief decoration with details indicated by tooling. A snake wriggling its way across the middle of the skull-piece forms the most distinctive element of the decoration. The snake's scales are indicated by small grooves. Under the snake's head is a remnant of the hinge to which the face mask would have been attached. The snake winds over a cap with a beaded edge indicated in relief, while the cloth itself is marked by means of parallel grooves with short herringbone incisions inbetween. The hair which curls out from under the cap is bound by a wreath of (laurel?) leaves 3.0-3.5 cm wide, bound at the back with a ribbon. More flowing locks of hair emerge from under the wreath. Two large bosses, decorated with radiating grooves with dots between each ray, are hammered out at the side between the wreath and the neck guard. Inserted into the middle of each boss is an iron looped split-pin. A third pin is mounted at the back, in between the outward curling ribbons of the wreath. Three crudely punched holes (two struck from the outside, one from the inside) in the narrow, undecorated neck-guard served to attach the inner lining of the helmet.

This helmet is unique and there are few obvious parallels between this and other published helmets. Reference may be made to two helmets from Eining,<sup>9</sup> which have a plait of hair instead of a wreath. The snake, one of the attributes of Medusa, frequently appears on parade helmets and armour, though usually without her. A single snake is



**Fig.5:** Vechten 1976. Helmet no. 2, back (slightly enlarged)

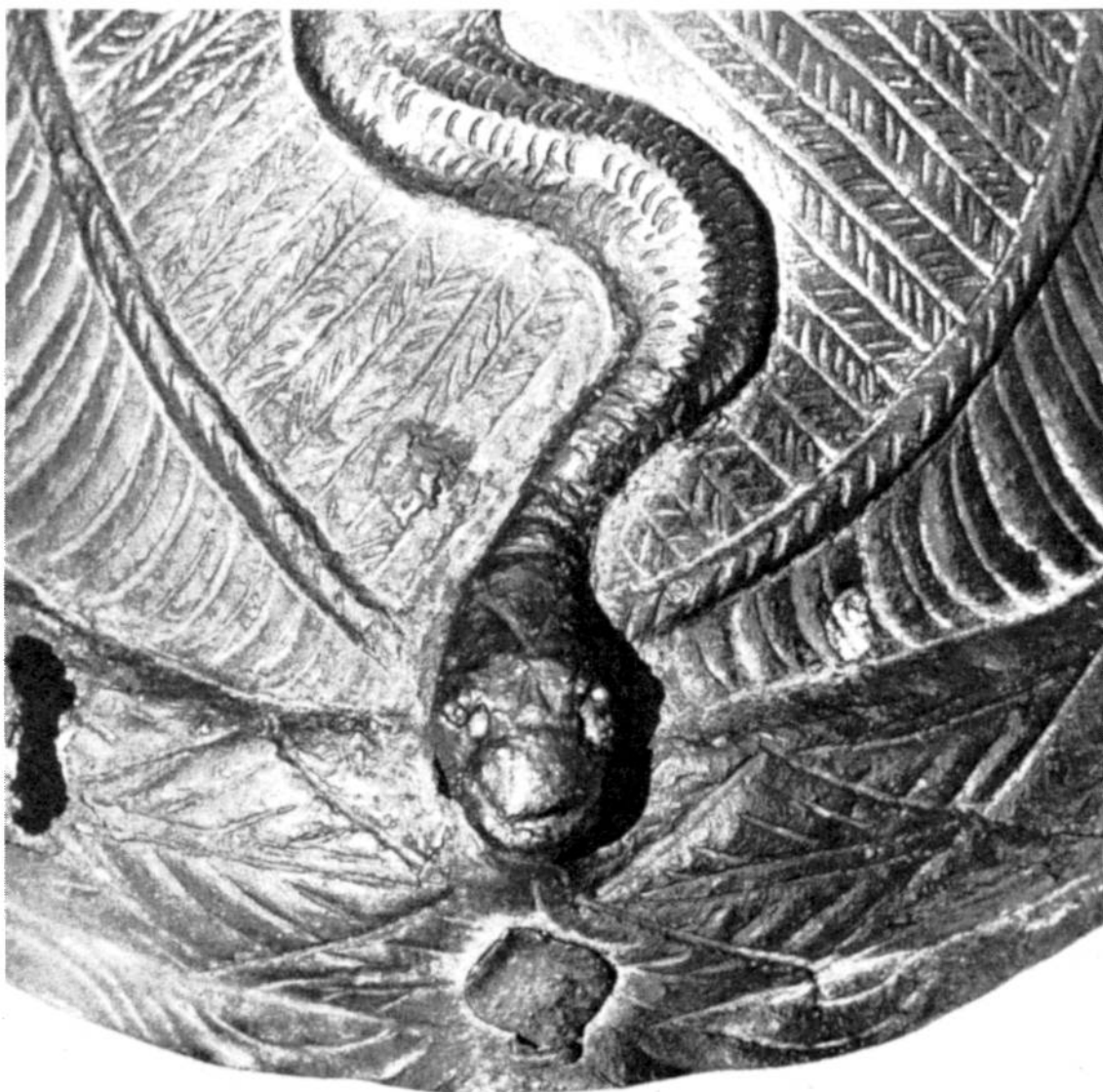


**Fig.6:** Vechten 1976. Helmet no. 2, left side



**Fig.7:** Vechten 1976. Helmet no. 2, detail of right side





**Fig.8:** Vechten 1976. Helmet no. 2, detail of top.

sufficient for the Vechten armorer, unlike the parade helmet from Cetate-Razboieni<sup>10</sup> which has no less than three to strike terror into adversaries.

Height: 23.4 cm, width: 19.7 cm. Metal thickness: 1.1-2.1 mm.

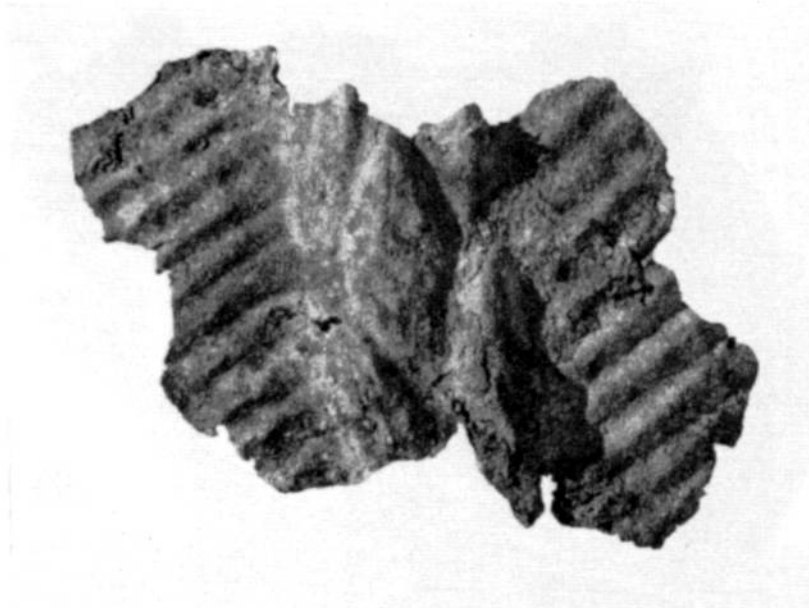
Found during construction activities associated with the widening of Rijksweg 12 in 1976.

Private collection

Unpublished

3. Fig.9.

Small fragment of the skull-piece of a masked helmet. Iron. All that is preserved is a piece of a decorated plait or (laurel?) wreath and some embossed curls.



**Fig.9:** Vechten 1977. Helmet no. 3 (scale 1:1).

Max. dimensions: 9.6 x 7.2 cm. Metal thickness: 0.4-1.0 mm.

Found during construction activities associated with the widening of Rijksweg 12 in 1977.

Private collection.

Unpublished

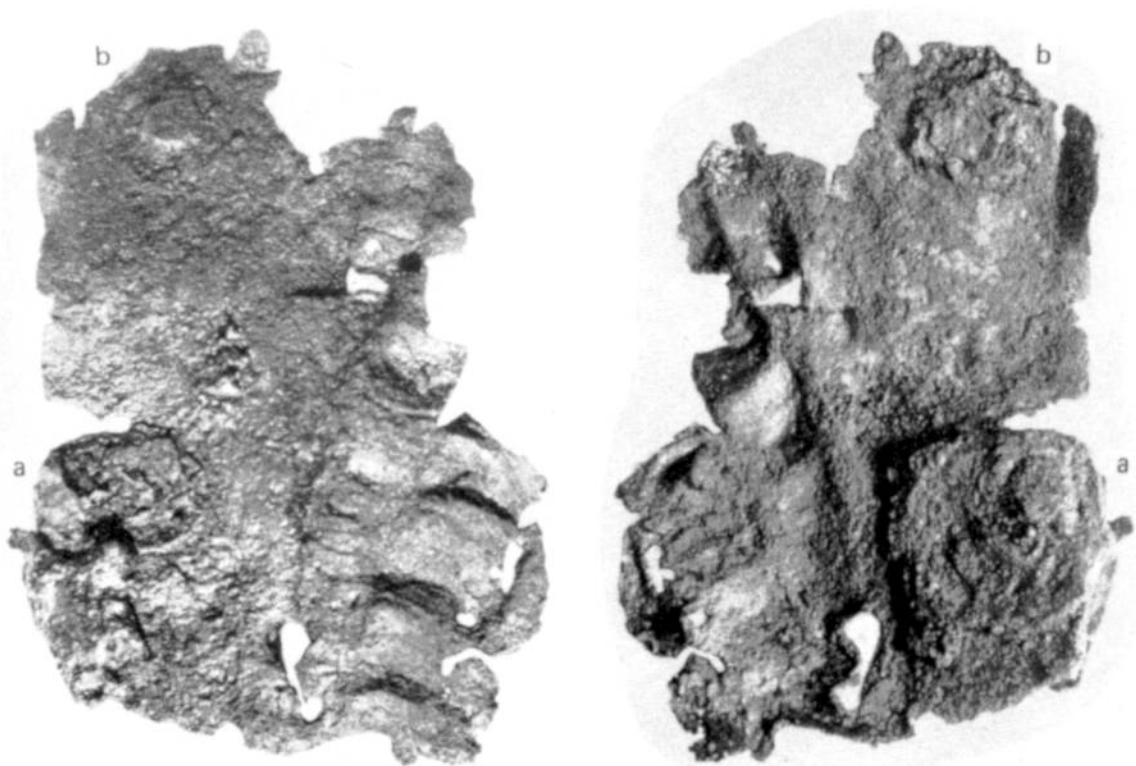
4. Fig.10.

Small fragment of a masked helmet.<sup>11</sup> Iron, extensively corroded. An edge with some curls of hair remains, probably from the right side of the helmet. The undecorated strip would have been covered by the skull-piece of the helmet. A single row of rather flat curls can be distinguished, together with traces of a head-band or wreath. The undecorated area has been repaired in two places with metal plates and rivets.

- a. A rectangular iron plate has been rivetted to both the front (1.4 x 2 cm) and the back (2.7 x 2.5 cm) with a flat headed rivet, bell-capped at the back. On the outside, a third, severely oxydized iron plate abuts the little repair.
- b. On the outside, the second repair appears only as a flat, round headed rivet, though an iron plate might have rusted away. On the inside is a thin, irregular plate (1.6 x 1.4 cm) with possibly a smaller plate on top. Severe rust concretions around the repairs obscures the precise details of dimensions and construction.

Length: 10.4 cm, width: 6.6 cm. The metal is 0.3-0.4 mm thick at the hair and 0.9 mm at the undecorated edge.

Found in the excavations of summer 1893, no. AD 72 (for further details see note 38).



**Fig.10:** Vechten 1893. Helmet no. 4, left, outside; right, inside (scale 1:1).

Provinciaal Oudheidkundig Museum Utrecht.  
Unpublished.

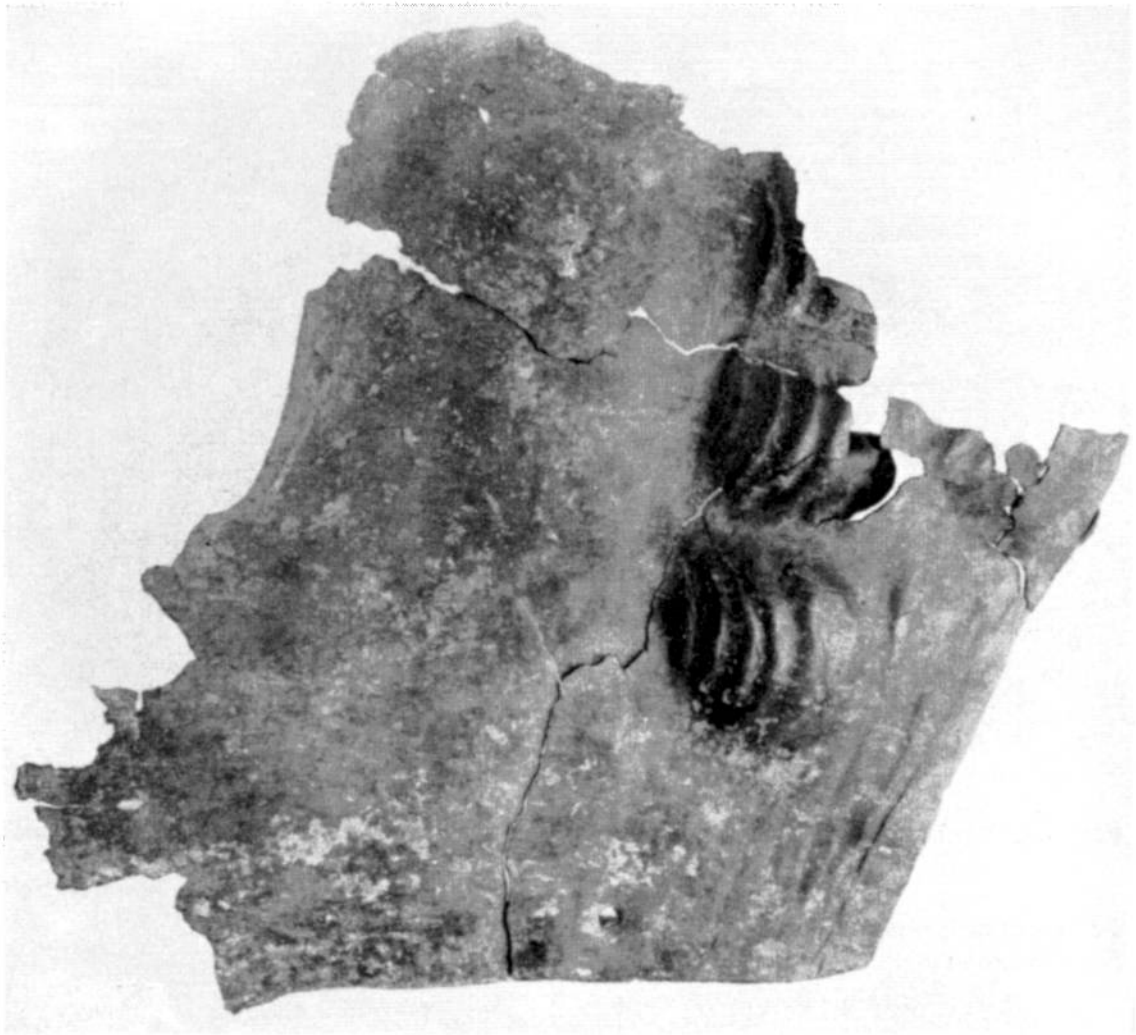
5a. Fig 11.

Fragment of the face of a tripartite masked helmet of Robinson's Cavalry Sports type F.<sup>12</sup> Bronze, partially covered by dark green patina. Broken into four fragments, surface cracked. The fragment, which belongs to the left side of the helmet, preserves two complete and two incomplete curls of hair. The original back and lower edges remain, but of the face opening only the section from cheekbone to mouth is present. A narrow tin-coloured strip is visible along the face opening, contrasting with the golden colour of the bronze. The strip is probably a remnant of solder, and the opening was probably originally edged with a masking strip of, for example, copper. At the bottom edge is a rectangular hole, punched from the outside, intended for the rivet securing the strap which fastened this section of the helmet to the skull-piece.

Length: 13.5 cm, width along lower edge: 8.5 cm, metal thickness: at the edge, near the curl, 1.0 mm, at the face opening, 0.3 mm.

Found in the 1947 excavations, find no. 340. According to the find record, find no. 340 is 'from ditch fill, stone per(iod) Trench III, 2.40 + NAP'.

Provinciaal Archeologisch Depot in Utrecht.  
Unpublished.



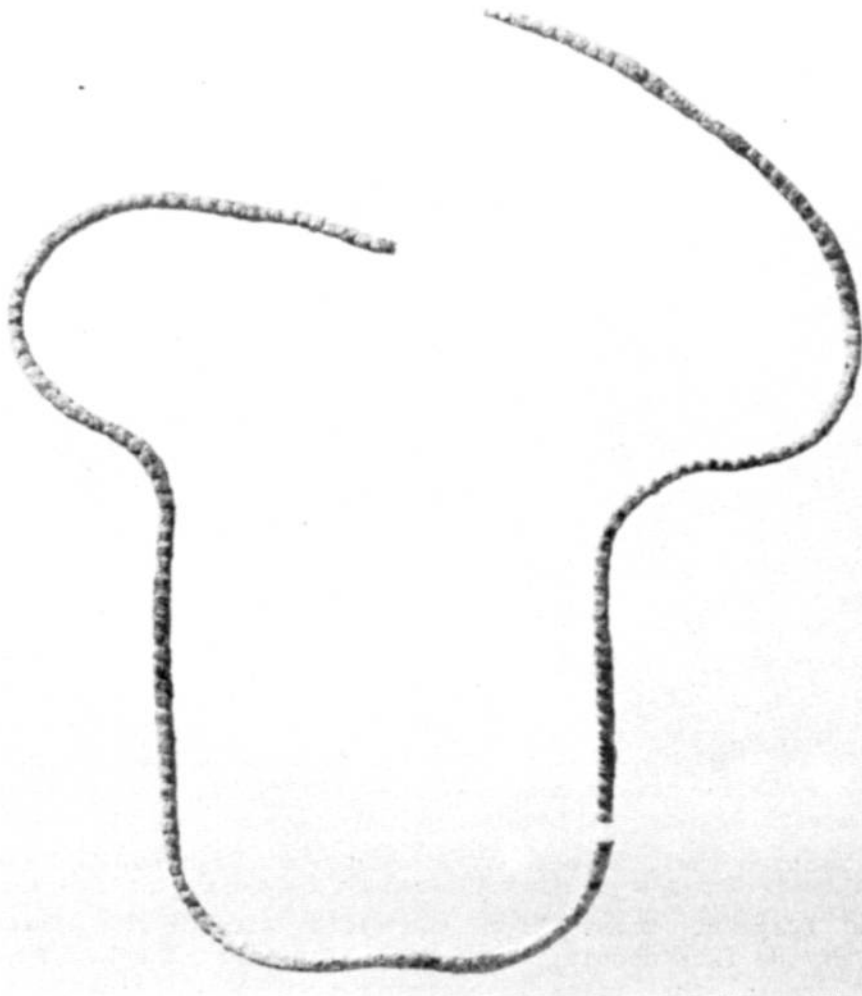
**Fig.11:** Vechten 1947. Helmet 5a (top) and 5b (bottom). Photo F. Gijbels  
IPP (scale 1:1)

5b. Fig.11.

Small fragment of the same piece as 5a, but from the right side. Bronze, mostly obscured by dark green patina and some light green oxide spots. Cracked in places. Only a little of a single curl of hair remains with a rectangular hole punched from the outside near the carelessly cut lower edge for a rivet as 5a.

Length: 7.3 cm, width along lower edge, 6.1 cm, metal thickness: 0.2-0.3 mm, along lower edge: 0.5-0.8 mm.

Found in the 1947 excavations, find no. 340.  
Provinciaal Archeologisch Depot in Utrecht.  
Unpublished



**Fig.12:** Vechten 1947. Face edging no. 6. Photo. F. Gijbels IPP (scale 1:1).

6. Fig.12.

Two pieces of wire shaped for the face opening of a helmet of Robinson's Cavalry Sports type F or G. Bronze, oxydized. Both strips are deformed at the top of the face opening. The wire is slightly rounded at the front and is decorated with grooves, traces of solder are visible on the flattened back surface.<sup>13</sup>

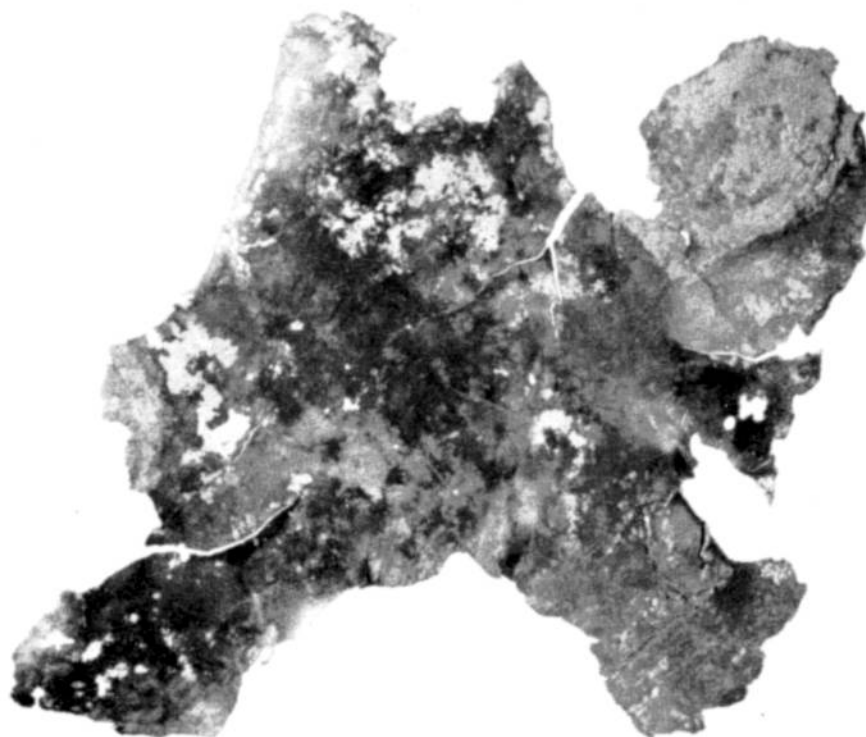
The wire is 1.7 mm thick, 2.0-2.3 mm wide. The face opening would have been 6.2 cm wide at the bottom, with the top of the mask about 11 cm wide.

Found in the 1947 excavations, find no. 340. For details see helmet no. 5a.

Provinciaal Archeologisch Depot in Utrecht.  
Unpublished.

7. Figs.13 & 19.

Fragment of the face mask of a bi- or tripartite helmet of Robinson's Cavalry Sports type G or F.<sup>14</sup> Bronze, 'polished' surface, scarcely corroded, with black and greyish patches perhaps indicating a wash of tin or other white metal. A few specks of green oxide.



**Fig.13:** Vechten 1947. Helmet no. 7. Photo. F. Gijbels, IPP (scale 1:1).

The fragment comes from the left side of the helmet. A small section of the face opening, extending along the cheek, remains, but for the rest, the piece is jaggedly torn on all sides, with several surface cracks. Towards the upper right, scarcely visible on account of an irregular patch of corrosion, is an oval thickening of the metal (area c. 23 x 18 mm). The hammer marks left in forming the helmet are still clearly visible on the interior.

Maximum dimensions: 14 cm (measured diagonally), width along face opening: 10.2 cm, metal thickness: 0.3-0.5 mm.

Found in the 1947 excavations, find no. 340. For details see helmet no. 5a.

Provinciaal Archeologisch Depot in Utrecht.  
Unpublished.

8. Fig.14.

Skull-piece of a masked helmet in the shape of a Phrygian cap. Thin brass with bog patina. The helmet metal is cracked in many places, a section of the left side is missing, together with part of the deep neck-guard. The helmet curves forward at the summit, ending in an eagle headed peak with a small eye suspended from the hooked beak. The armourer has treated the eagle with particularly fine attention to detail. Below the eagle's head, the helmet has split open along the soldered join. The edges of the helmet are expanded in low relief.

The brass is so thin that the helmet could scarcely have been worn without some inner reinforcement, though no indications for an inner cap remain. It is, however, possible that the metal was originally thicker, and has been thinned out by chemical action in the soil, as is the case with certain of the lorica squamata scales (see no. 16), which are now paper thin.

As the symbol of Jupiter, the eagle appears regularly on military parade armour, often accompanied by the war god Mars or the goddess Victoria. On helmet cheek-pieces the eagle more often appears alone, or with a wreath.<sup>15</sup>

Crests terminating in an eagle's head occur on helmets from Brigetio,<sup>16</sup> Frankfurt-Heddernheim<sup>17</sup> and Worthing.<sup>18</sup> A small eagle fronts the crest of a helmet from Theilenhofen<sup>19</sup> and one of unknown provenance now in the Hungarian National Museum, Budapest.<sup>20</sup>

No parallel for a helmet rising to a point and terminating in an eagle's head can be found in the available literature. However, the Vechten helmet does bear a resemblance to the cap worn by Ganymede on one of the Straubing chamfrons<sup>21</sup> and on medallions or shield bosses from Schwarzenacker<sup>22</sup> and Carnuntum.<sup>23</sup> A helmet from Ostrov is described by Robinson as having 'the form of a tall Phrygian cap with the forward curving apex in the form of an eagle's head'.<sup>24</sup> Alas, the entire part under the eagle's head has been broken away, so that the exact form of the front cannot be determined, though it would seem to be considerably plumper than the Vechten example. It is noteworthy that almost the entire preserved surface of both helmet and cheek piece are covered by feathers, as though to represent the body and neck of the eagle. According to Robinson, the feathers are engraved; Garbsch is of the opinion (in our view correctly) that the feathers were embossed by means of a stamp. Finally we may point to a miniature helmet with an eagle from Köln<sup>25</sup> and certain gladiators' helmets which rise to griffon's head crest.<sup>26</sup> A good example of such a helmet may be seen on the tombstone of M. Antonius Exochus, a Thracian, of the time of Trajan.<sup>27</sup>

Height: c. 31 cm. Metal thickness: 0.2-0.4 mm, somewhat thicker in places.

Found during construction activities associated with the widening of

Rijksweg 12 in 1977.

Private collection.

References: KALEE 1980, 267, afb. 5-6.

9. Fig.15.

Front section of a two piece helmet. Brass, locally covered with a black, oxydized deposit, probably representing a wash of tin or other white metal. The metal is cracked in several places, as well as at the sides and at the bottom, where it has been repaired recently. Two ancient repairs occur at the top edge at the back of the helmet.

- a. A rectangular brass plate is attached to the upper side with a couple of cramps/rivets and is folded over the helmet edge. The plate is 20.5 mm wide, the length incomplete but probably c. 50 mm.
- b. A rectangular copper plate, 62 mm long, 12.8-14 mm wide, is soldered to the under surface.

The two repairs probably mark the position of the hinge which linked the face section to the skull-piece of the helmet. The hinge was probably remounted above the repaired area, but here too it broke, ripping out the jagged hole which is still visible just above the repairs.<sup>28</sup>

The entire (vertical) back of the helmet is reinforced by a strip of brass 9.7-13.4 mm wide soldered to the interior. The strip had worked loose in two places and was re-soldered by the finder/owner. A narrow flange along the bottom is rolled outwards. At both sides of the bottom edge is a rivet hole for the strap attachment of the two helmet sections. The pear-shaped face mask is roughly cut out, and a small section of the lower edge has been filed down. Originally the unfinished edges must have been lined with a metal strip to protect the face. There is no sign of a hinge attachment at the top, suggesting that the helmet was worn without a visor.

The strange, pointed shape of the Vechten helmet is broadly comparable to that of the three face masks from Straubing<sup>29</sup> and one from Eining.<sup>30</sup> The Vechten example, however, has neither hair nor facial features. The absence of hair and the crude finish of the face opening might suggest an unfinished product, though the two repairs and the torn out hinge at the top seem rather to indicate long service.

Height: 28.7 cm, width: 19 cm. Face opening, height: 13.2 cm, width: 10.5 and 6.2 cm. Metal thickness: 0.3-0.6 mm, in the centre of the forehead almost 1.0 mm.

Found during construction activities associated with the widening of Rijksweg 12 in 1977.

Private collection.

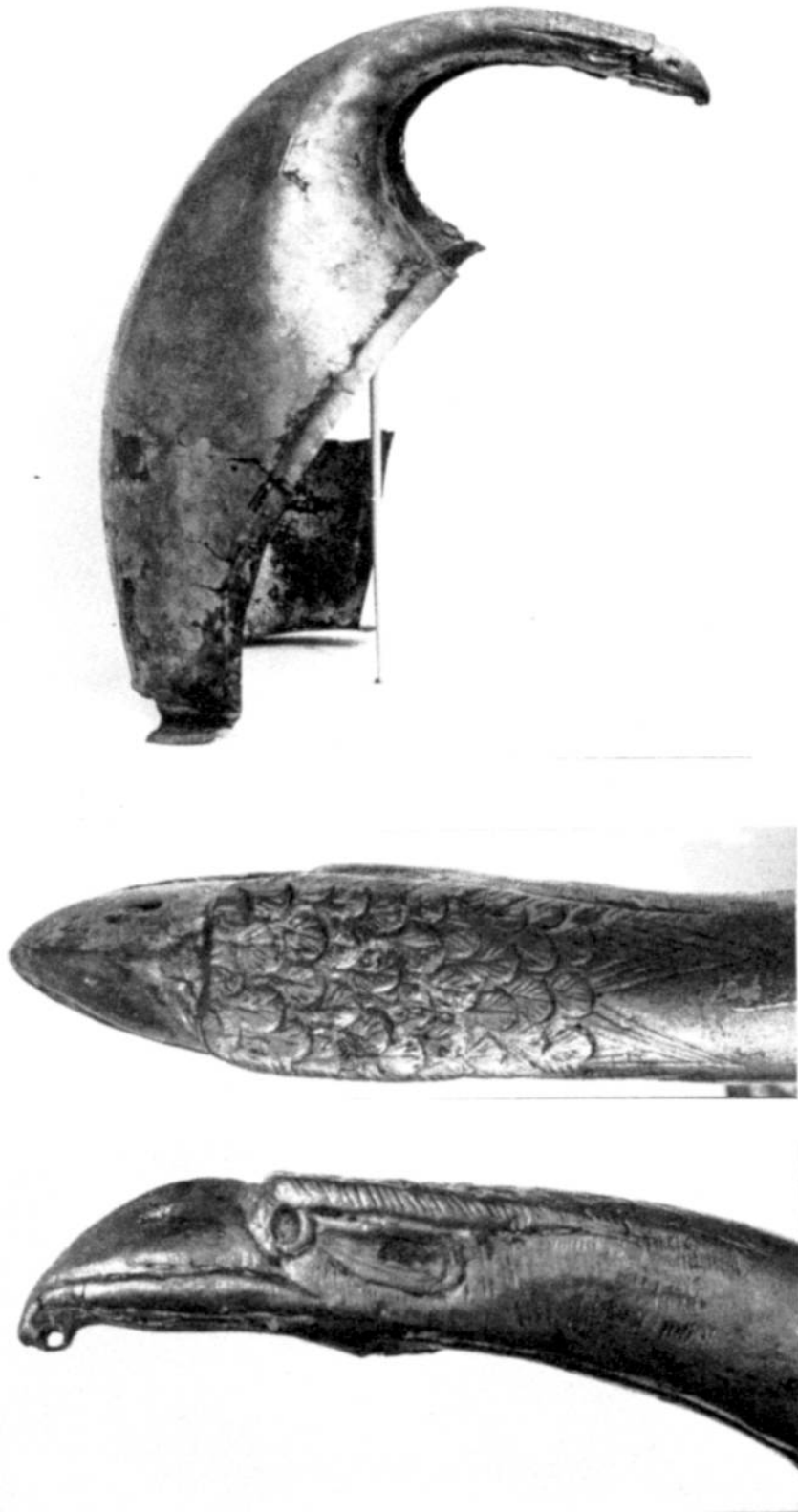
References: KALEE 1980, 269, afb. 8.

AUXILIARY CAVALRY HELMET

10. Figs.16-18.

Major portion of a cavalry helmet of iron with brass inlay strips. Sections of the skull-piece and most of the narrow neck-guard are missing, as are the cheek-pieces. The helmet was fragmentary and

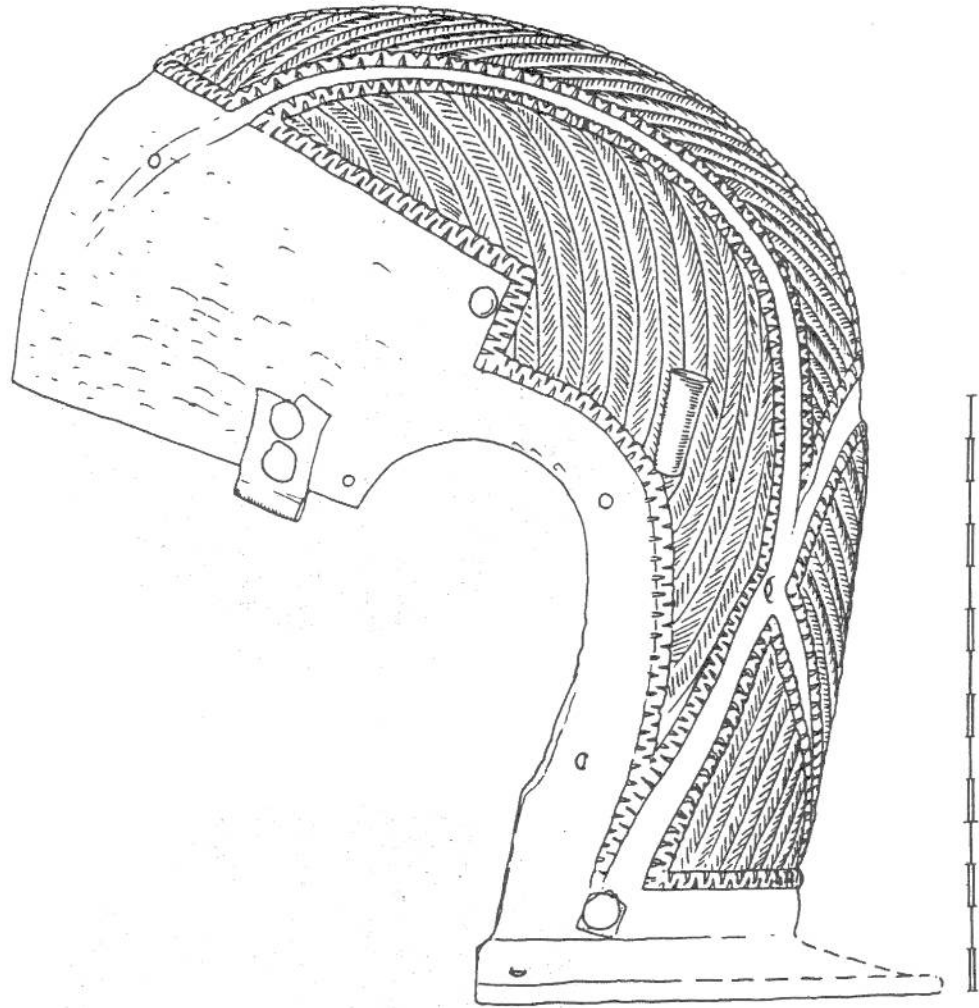




**Fig.14:** Vechten 1977. Helmet no. 8 (scale approx. 1:3)



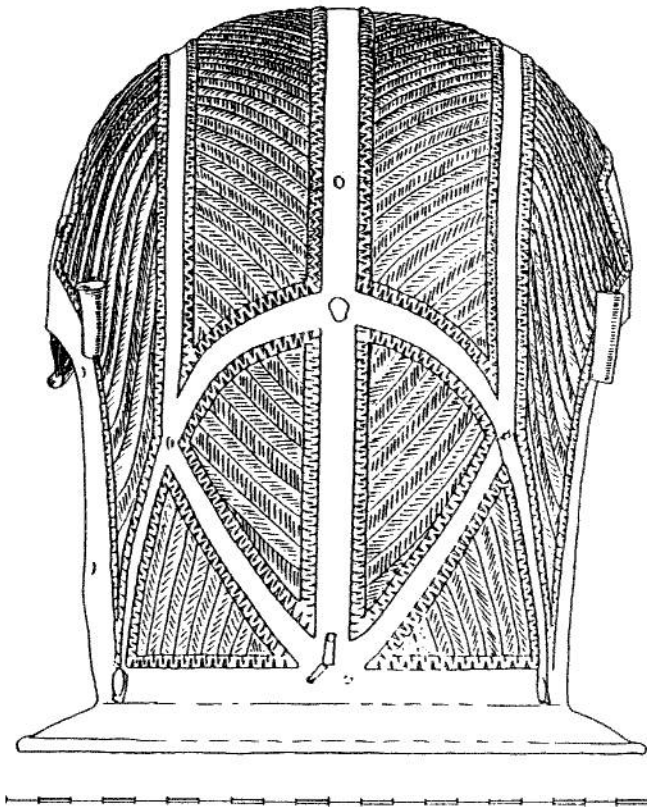
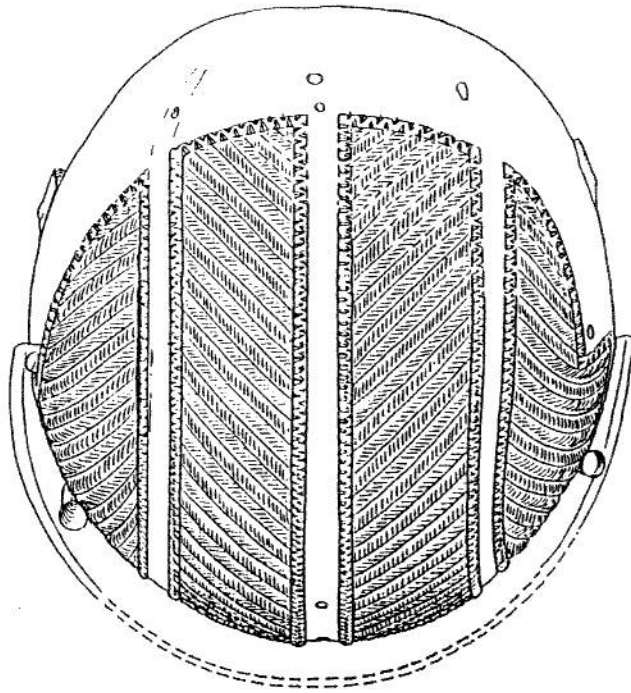
**Fig.15:** Vechten 1977. Helmet no. 9 (scale approx. 1:3)



**Fig.16:** Vechten 1977. Helmet no.10, left side. Drawing J. Ypey.

crumpled when discovered. Some pieces, including the two plume tubes were found in other private collections, but were reunited with the helmet during its restoration by the late J. Ypey.

The decoration of the helmet is divided into separate fields by means of narrow undecorated strips. These are edged by a zig-zag line in relief, which also encloses the entire decorated area. Short grooves in herringbone design cover the parallel ribbing within the fields. Originally, the light grey metal colour of the helmet was relieved by various copper/bronze decorative elements, which have for the most part failed to survive. The most distinctive of these are the brass strips laid along the undecorated bands. A fragment of such a strip 8.5 cm long is preserved on the right side and another piece is lodged under the iron rivet at the lower left. The high, undecorated brow and the ear opening must originally also have been covered by decorated copper/bronze bands or plates, as is also suggested by the presence of rivets and rivet holes. Decorated brow bands and ear plates are, for example preserved on helmets from Heddernheim<sup>31</sup> and Nijmegen.<sup>32</sup> The two brass hinges on which the cheek-pieces were suspended are secured to



**Fig.17:** Vechten 1977. Helmet no. 10, top and back. Drawing J. Ypey



**Fig.18:** Vechten 1977. Helmet no. 10, detail of top

the helmet with iron rivets. The uppermost hinge plate would have been covered by the brow decoration. The two plume tubes are cut from bronze sheet and the ends of which are bent back, through a hole in the helmet side (Fig.19). The narrow neck guard is largely broken away, but in the preserved section a couple of holes for the attachment of the helmet lining are still visible.

Height: 23.6 cm, width: 18.3 cm. Metal thickness: at the crown 0.6-0.8 mm, at the sides 1.2 to, in places, 3.2 mm.

Found during construction activities associated with the widening of Rijksweg 12 in 1977.

Private collection.

References: KALEE 1980, 266, afb. 4 (taken before restoration)

#### CHEEK-PIECES

##### 11. Not illustrated.

Left cheek-piece. Iron with bronze edging.

Length: 15.2 cm, width: 13.1 cm.

Found during the construction of Fort Vechten (formerly De Burg) in 1867-69.

Rijksmuseum van Oudheden in Leiden, inv. no. V.F.834

References: HOLWERDA 1908, 184, no. 144; KLUMBACH 1974, 60, no. 50, Taf. 43.

##### 12. Not illustrated.

Lower section of left cheek-piece. Iron with bronze rivet.

Length: 3.6 cm, width: 5.4 cm.

Found during construction activities associated with the widening of Rijksweg 12 in 1977.

Private collection.

References: KALEE 1980, 269, afb. 9.

#### BODY ARMOUR

##### Scale armour (lorica squamata)

##### 13. Fig.19.

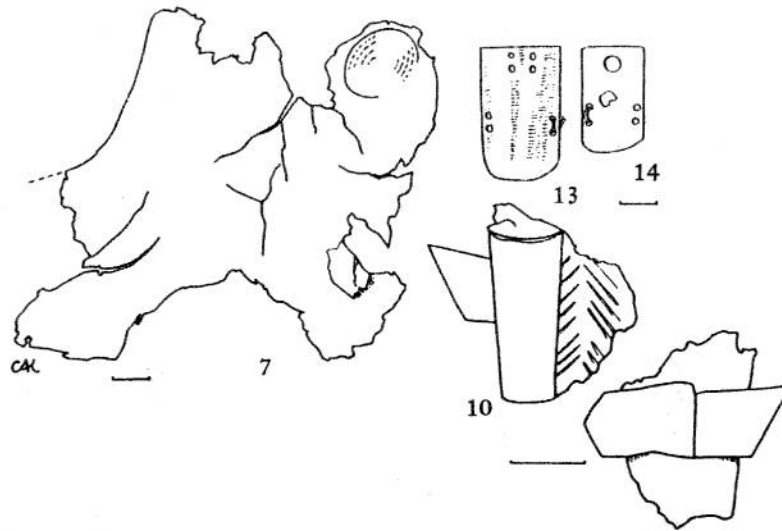
Single scale. Slightly deformed. Bronze, as new. Eight holes for the passage of copper wire, a piece of which remains to the right. Von Groller illustrates a similar scale from Carnuntum.<sup>33</sup>

Length: 35.7 mm, width: 21 mm, thickness: 0.5 mm.

Found during construction activities associated with the widening of Rijksweg 12 in 1977/78.

Private collection.

References: KALEE 1980, 270, afb. 12, left.



**Fig.19:** Vechten 1947 and 1977/78. Helmet no. 7 (scale 1:2); plume tube from helmet no. 10 (scale 1:1); scales nos 13 and 14 (scale 1:2).

14. Fig 19.

Single scale. Slightly deformed. Thin brass, partially covered by black oxides. One large and four small holes for the passage of copper wire, a fragment of which remains in the hole at the left. The scale has been punctured from the outside in the centre (arrow head?).

Length: 28.5 mm, width: 16.3 mm, thickness: 0.2 mm.

Found during construction activities associated with the widening of Rijksweg 12 in 1977/78.

Private collection.

References: KALEE 1980, 270, afb. 12 right.

15. Not illustrated.

Scale, damaged. Bronze. A large hole at the top and three smaller holes to the left.

Length: 28.2 mm, width: 16.6 mm, thickness: 0.2 mm.

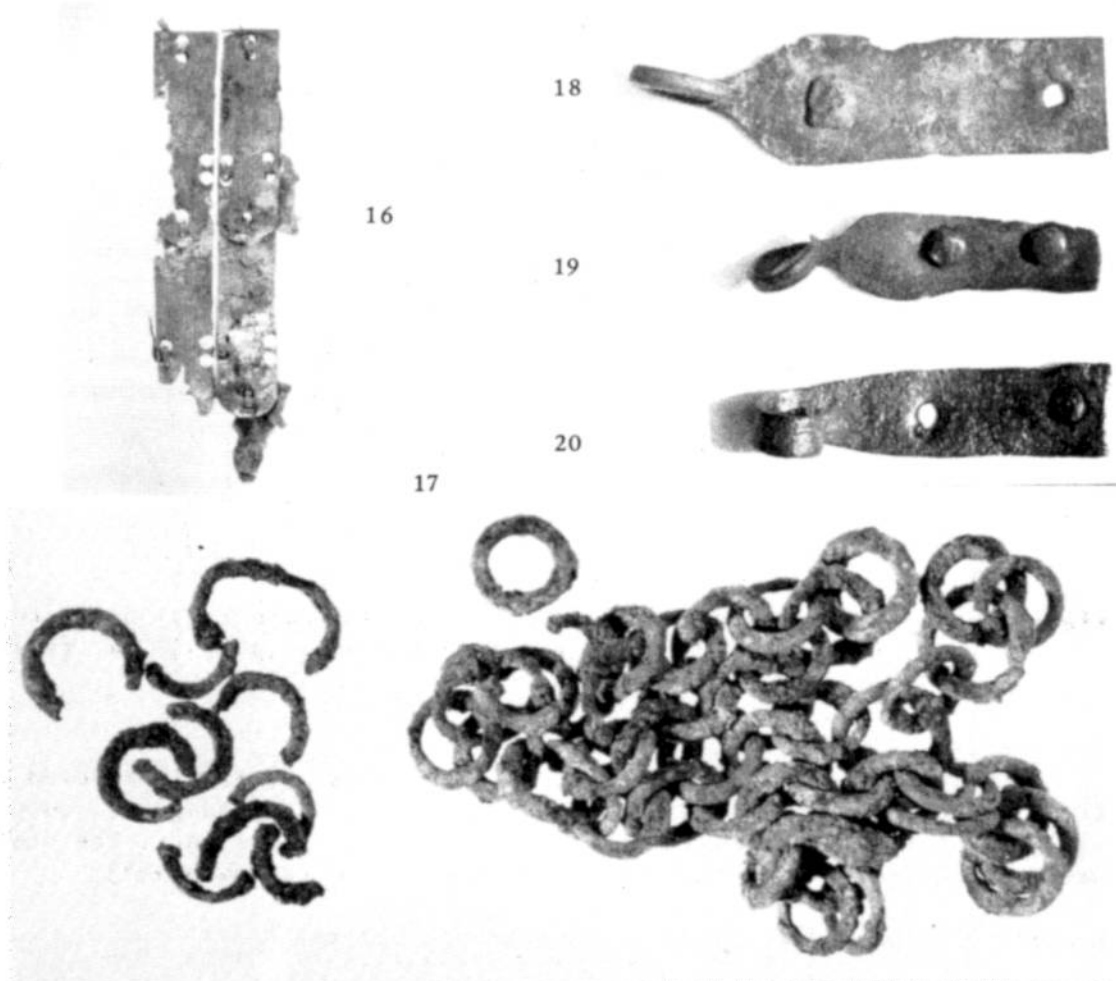
Found during construction activities associated with the widening of Rijksweg 12 in 1977/78.

Private collection.

Unpublished.

16. Fig 20.

Three complete, elongated scales and fragments of two more, still attached by copper wire. Brass which has become paper thin, probably as a result of soil action. Bog patina. Each scale has two holes at both top and bottom, with two more holes at each side, set well below the centre. Scale armour from Hrušica<sup>34</sup> is of the same shape, though the holes at the side are just below the centre.



**Fig.20:** Vechten 1970, 1977-78. Scale no.16 (scale 1:1, photo F. Gijbels); mail fragment no. 17 (scale 2:1); hooks nos 18-20 (scale 1:1 photos C.A. Kalee).

Complete scale, length: 28 mm, width: 7.5-8.5 mm, thickness <0.1 mm(!).

Found during excavation of a new ditch along Rijksweg 12 in 1970.  
Private collection.  
Unpublished.

Mail (lorica hamata).

17. Fig 20.

Small fragment of mail. Iron. The rings are flattish-oval and have different diameters, ranging from 7.0-7.4 mm.

Found during construction activities associated with the widening of Rijksweg 12 in 1977/78.  
Private collection.

References: KALEE 1980, 270, afb. 11.



Laminated armour (lorica segmentata)

18-21. Fig 20 (21 not illustrated).

Hooks for laminated armour. Some of the rivets still in place.

18: copper, length 62.5 mm; 19: brass, length 46 mm; 20: brass, length 47 mm; 21: bronze, broken, remaining length 35 mm.

Found during construction activities associated with the widening of Rijksweg 12 in 1977/78.

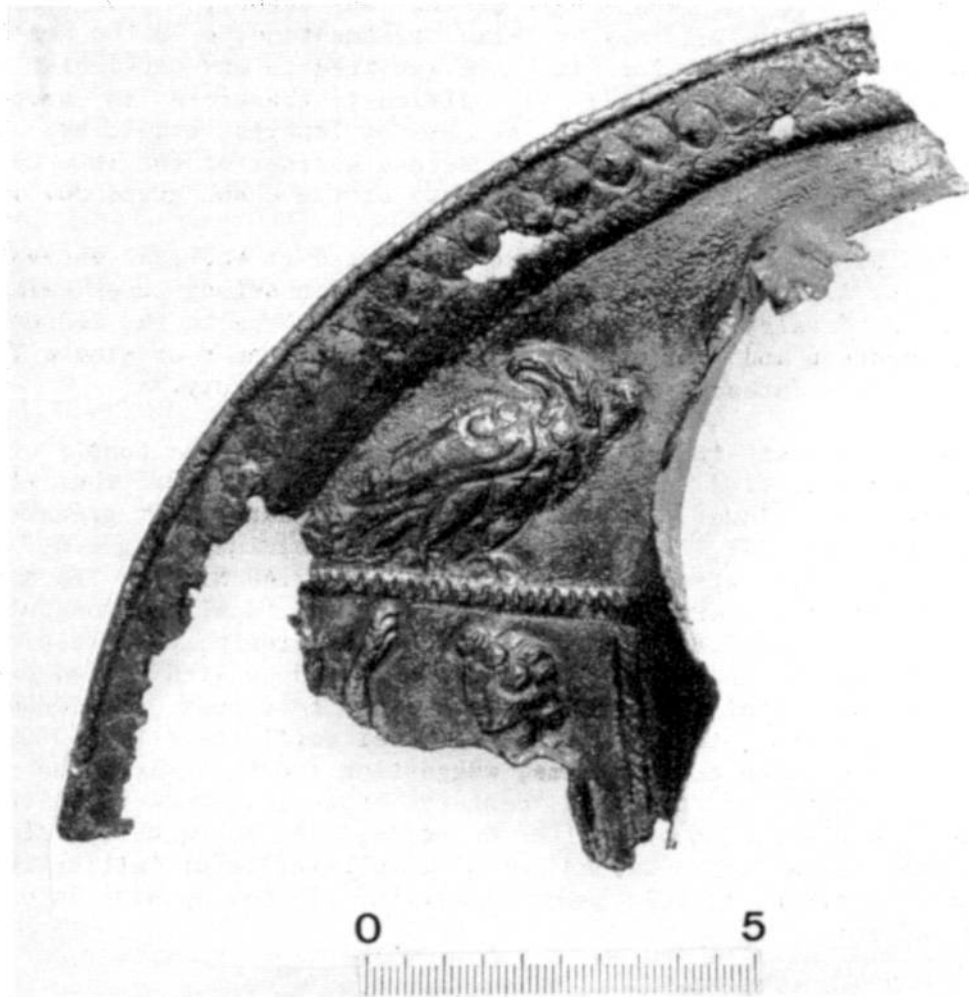
Private collection.

References: KALEE 1980, 271, afb. 13.

HORSE ARMOUR

22. Fig.21.

Small piece from the upper right of a chamfron, type Straubing, first group. Bronze. Only the rim of the eye guard remains, but a curve in the edge is rather suggestive of a face such as that decorating the eye-guards of some of the Straubing chamfrons.<sup>35</sup> A Gorgoneion is



**Fig.21:** Vechten 1921. Fragment of a chamfron, no. 22. Photo R.F. van Berlo.

perhaps indicated by the tip of a snake's head which is visible at the top of the guard. To the left of the eye-guard is an eagle and a standing male figure in raised relief, separated by a tooled line. The eagle is particularly well portrayed, standing to the right, its head turned left and its left wing slightly raised. The male figure, his right arm raised as though holding a lance or staff is reminiscent of certain nude figures of Mars on armour.<sup>36</sup> The edge of the chamfron is decorated with a coarse beading between two ribbed cords. The craftsman has surrounded most of the decorative elements with little dots.<sup>37</sup>

Maximum length: 14.5 cm (measured diagonally).

Found in the 1921 excavations, at the porta decumana.

Provinciaal Oudheidkundig Museum Utrecht.

References: ISINGS 1980a, 1980b.

#### DATING

The exact location and associations of the finds of 1867-69 (nos 1 and 11) and 1893 (no. 4) are unknown.<sup>38</sup> Both Klumbach and Garbsch date the mask no. 1 to the second half of the 1st century,<sup>39</sup> though Robinson places it in the 2nd century.<sup>40</sup> Helmet fragment no. 4 is too small and too poorly preserved for it to be ascribed to any particular helmet type with certainty, and it is difficult therefore to propose a satisfactory dating. An iron helmet of Imperial Italic type B from Klakanje, Yugoslavia, dating to the second quarter of the 1st century, provides the best parallel for the shape of the cheek guard no. 11.<sup>41</sup>

The helmet fragments 5-7 were discovered in the 1947 excavations, directed by A.E. van Giffen. Fragments 5a and b belong to a helmet of Robinson's Cavalry Sports Type F, which he dates to the 2nd century. The fragments 6 and 7 might belong to either a Type F or else a Type G which Robinson dates to the late 2nd-early 3rd century.<sup>42</sup>

These helmet fragments turned up together with a couple of other metal objects in find number 340.<sup>43</sup> In the register the find is described as follows: '340. Brons, w.o. frag. harnas uit grachtvulling steenen per. Put III, 2.40 N.A.P.' '340. Bronze, including body armour from ditch fill stone period Trench III, 2.40 N.A.P.' The ditch in which 340 was discovered<sup>44</sup> is, according to the ideal section published by Van Giffen (Fig.2.B) the latest ditch belonging to the stone fort. It is probable that this ditch slowly silted up with eroded material from the sides after about 250 AD when the fort was abandoned. The helmet fragments, together with the other metal items in 340 may have landed in the ditch at this time, suggesting a date towards the end of the first half of the 3rd century. However, since the ditch cuts through a whole series of earlier deposits, it is equally plausible that the items were washed out of an earlier level falling into the silt in the ditch. In this case, an earlier (by how much?) date would be called for.

In short, the find associations of the fragments 5-7 allow no improvement on the dating proposed by Robinson. A find association such as this, which consists entirely of unusual metal items is,

nevertheless, significant. It possibly represents (part of) a hoard of scrap metal intended for reuse.

The cavalry helmets 2, 3, 8, 9 and 10, together with the cheek piece 12, and the fragments of armour 13-15, 17-21, were retrieved in 1976-77, from soil disturbed by the construction of Rijksweg 12 (fig. 3, at 5). All these pieces come from a former channel of the Rhine which silted up with natural deposits of sand and clay, as well as thick, deliberately dumped humic deposits heavily contaminated with settlement refuse, all sloping off to the north and containing vast numbers of finds.<sup>45</sup> Associated with these deposits were numerous horizontal and vertical timbers, apparently arranged in casements, jutting out from the river bank and running parallel to it. Van Tent<sup>46</sup> regards these as timbers used in a late phase of the channel's reclamation, interpreting the fill as a systematic extension of the south bank, perhaps working out from individual plots. According to Van Tent, the date of the finds in the refuse layers indicates that the river channel was entirely filled by c. 200 AD. However, in view of the terra sigillata from the early decades of the 3rd century and coins of Elagabalus (218-222) and Severus Alexander (222-235)<sup>47</sup> the period of activity should, in the author's opinion, be extended to c. 225-230 AD. On this evidence, both the complete and the fragmentary helmets from the refuse levels, and probably also the pieces of body armour, can best be dated to the second half of the 2nd century and the first quarter of the 3rd century.

The chamfron fragment no. 22 was discovered during the excavations of 1921, conducted by A.E. Remouchamps.<sup>48</sup> It is well known that Holwerda, Remouchamps and Braat all collected the finds by trench ('grep'), all too often regardless of the depth. Consequently, these finds have no stratigraphic significance. On analogy with other finds, the chamfron can perhaps best be dated to the last quarter of the 2nd century and the first half of the 3rd.<sup>49</sup>

#### ALA I THRACUM?

At least three cavalry units are recorded amongst the garrisons occupying Vechten after 70 AD. According to the reconstruction proposed by Bogaers, the cohors II Brittonum (or Britannorum) milliaria equitata, may have rebuilt the fort, which had been destroyed in 69/70, and may have occupied it for a short period. By 78, or 80 at the latest, the cohors I Flavia Hispanorum equitata arrived in Vechten, to be replaced by the ala I Thracum some time before the middle of the 2nd century. This unit probably remained at Vechten until the middle of the 3rd century.<sup>50</sup>

To which of the three units the wearers of the helmets and armour might have belonged is by no means certain, but as most of the items seem to date after the middle of the 2nd century, the ala I Thracum seems to be the most obvious candidate.

The evidence available to Bogaers for his reconstruction of the succession of the garrisons was sparse in the extreme and new finds may compel revision of not only the order of succession, but also of the dates proposed. In addition, the dating of the helmets published here,

many for the first time, will also require further refinement. However, there is so little consensus in the literature concerning the precise dating of specific helmet types, that the arbitrary choice of any particular date would seem to be unjustifiable at present. For this reason, the contribution of the find circumstances of each of the Vechten items to the discussion has been examined in some detail.

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#### NOTES

1. BOGAERS & RÜGER, 1974, 62-66
2. WELLS, 1972, 101-116
3. For observations and excavations during 1969 and 1970 see KALEE & VAN TENT, 1969, 101; VAN TENT, 1973a, 128-131; VAN TENT, 1976, 61-63
4. KALEE, 1980
5. In most publications concerning Roman armour a distinction is only made between bronze and iron and further identification of metal alloys like brass is rarely attempted. Since no analyses could be carried out on the metal of the helmets and the other equipment from Vechten - an additional difficulty being the wide distribution in private collections - the metal is here usually referred to as 'bronze' even though brass may be concerned. In some cases, where visual characteristics were more suggestive of an alloy, I have preferred the use of 'brass' or 'copper'.
6. ROBINSON, 1975, 122-123
7. ROBINSON, 1975, 118-123, Pl. 337-358
8. ROBINSON, 1975, 123, Fig. 138
9. KELLNER, 1978, 13-16, Taf. 10-16, helmets 3 and 4
10. GARBSCH, 1978, 100, Abb. 6
11. This fragment emerged during a renewed study of the finds from 1892-94, and was recognized as a helmet fragment by Dr. C. Isings. I am most grateful to her for bringing this find to my notice and giving permission for its publication
12. ROBINSON, 1975, 126-127, Pl. 367-375). Less probable is type G (id.

- 128-129, Pl. 376-383). The bottom edge of the only surviving face mask of this type is flanged outwards (id. Pl. IV-V, 129, Pl. 376-377)
13. ROBINSON, 1975, 102, Pl. 291 illustrates a similar rim for a face guard from Kastell Pfünz with his Auxiliary cavalry helmet type H, dated to the end 2nd/beginning 3rd century (n.b. text to Pl. 291 and 292 is transposed)
  14. ROBINSON, 1975, 128-129, Pl. 376-383 (type G); 126-127, Pl. 367-375 (type F)
  15. See for e.g. GARBSCH, 1978, Taf. 4.2, 5.1, 5.2, 34.1, Taf. 10, F 1, 33.2 etc.
  16. ROBINSON, 1975, 128-129, Pl. 378-380; GARBSCH, 1978, Taf. 28, 1-2, O 54
  17. ROBINSON, 1975, 129, Pl. 376-377; GARBSCH, 1978, Taf. 29, O 53
  18. TOYNBEE, 1962, 167-168, Pl. 109; ROBINSON, 1975, 130, Pl. 384-386
  19. GARBSCH, 1978, Taf. 10, F 1
  20. ROBINSON, 1975, 128-129, Pl. 381-383, giving the find spot as 'From Eisernes Thor on the Donau'; GARBSCH, 1978, 72, O 55, Taf. 28, 3-4, mentioning 'Fundort unbekannt. Gefunden 1892 angeblich am Eisernen Tor/Donau'
  21. KEIM & KLUMBACH, 1951, Nr. 21, Taf. 32 and 35, 4-6; GARBSCH, 1978, Taf. 6.1, B 21
  22. KOLLING, 1971, Taf. 81-82; GARBSCH, 1978, Taf. 40, R 1
  23. GARBSCH, 1978, Taf. 41,1, R 3
  24. ROBINSON, 1975, 109, 134-135, Pl. 407-410, dating: second quarter of the 2nd century; GARBSCH, 1978, 73, Taf. 32.0 58, dating: mid 2nd century
  25. LA BAUME, 1983, 269, Abb. 254, adding on p. 268 'Im British Museum London befindet sich eine grünglasierte Lampe aus der Nähe von Köln in Form eines Gladiatorenhelmes, dessen Kamm ebenfalls in einen Adlerkopf ausläuft'
  26. WAHL, 1977
  27. DAREMBERG-SAGLIO, 1896, 1587, Fig. 3583, from Rome
  28. A rectangular opening as in two masked helmets from Straubing (KEIM & KLUMBACH, 1951, Taf. 11.1-2) and a helmet from Heddernheim (ROBINSON, 1975, 110, Fig 130-132) is also a possibility, but is rather less likely because there is no sign of such an opening on the Vechten helmet.
  29. KEIM & KLUMBACH, 1951, Taf. 5-7, 10-11 (3 helmet masks); GARBSCH,

- 1978, Taf. 2, 3-4
30. KELLNER, 1978, Taf. 1-4; GARBSCH, 1978, Taf. 1, Nr. 1 (A 1)
  31. ROBINSON, 1975, 100-101, Pl. 273-276
  32. Id. Pl. 277-279
  33. Id. 154, Fig. 159: (Von Groller) VIII
  34. GARBSCH, 1978, Taf. 35.2 (P 18), dating: 2nd-3rd century
  35. KEIM & KLUMBACH, 1951, Taf. 19, 22; ROBINSON, 1975, 193, Pl. 526, GARBSCH, 1978, Taf. 4.1 (B 15)
  36. E.g. KEIM & KLUMBACH, 1951, Taf. 15, 20, 27, 29 (nude); Taf. 19, 21, 24, 25 (in armour)
  37. This can also be seen in, e.g. KLUMBACH, 1951, Taf. 25 (Mars), Taf. 29 (Mars and Victoria)
  38. Between 1867 and 1869 the site was extensively disturbed during the construction of one of the Hollandse Waterlinie forts (Wells, 1972, fig. 3, the area within the large circle). There is scarcely any contemporary record concerning the very large numbers of finds. In 1893, the second season of excavation concentrated on two locations:
    - a) to the north of the fort, continuing the previous year's excavation (cf. Wells, 1972, fig. 3, at the text 'Pilework..') and going to a depth of 6.5m. Amongst the finds from the deepest levels was a wooden barge. From the records kept by MULLER (1895, 131) it seems that refuse deposits 5.5m thick, with much pilework, were encountered at this point in the Rhine bed. The finds here were very numerous, bearing comparison to the situation in the 1970's.
    - b) Between 5-15 August, there was also some work within the area of the Roman fort (JESSE 1893; MULLER 1985, 135). A relatively narrow trench was dug in a southerly direction

A list of finds, probably drawn up by the conservator of the Provinciaal Utrechts Genootschap, mentions that helmet no. 4 was found in the summer of 1893 at Vechten. Neither the exact date nor the find spot are recorded. JESSE (1893) notes in the find administration for 24th April that 'a piece of iron, probably from a helmet' was found. If this refers to the helmet fragment no. 4, then the piece comes from outside the fort proper. In view of the poor condition of the iron, however, it is unlikely that it could have come from the refuse levels.
  39. KLUMBACH, 1974, 64, no. 54; GARBSCH, 1978, 63-64, 0 7
  40. ROBINSON, 1975, 123, Pl. 358
  41. ROBINSON, 1975, 67, Pl. 152-154, cheek-piece also on Pl. 228 (type 25)
  42. ROBINSON, 1975, 126-129

43. According to the find administration, no. 340 comprises metal items exclusively. These are:
1. helmet fragment no. 5, bronze
  2. wire from the edging of a face opening, no. 6, bronze
  3. helmet fragment no. 7, bronze
  4. small fragment of a helmet (?) back(?) with section of neck flange(?), bronze
  5. greave fragment(?), bronze
  6. rectangular bronze sheet, crumpled (18.5x9.5 cm). Only a couple of loose remnants of the openwork decorated edges survive
  7. flat piece of lead, all edges broken
44. The find spot is marked with a star on Fig. 2
45. Several publications for the most part dealing with finds from the refuse layers have already appeared: VAN DRIEL-MURRAY, 1980; ISINGS, 1979; ISINGS & KALEE, 1978; KALEE, 1980, 1981, 1982a, 1982b, 1984; VAN TENT, 1973a, 1973b, 1976
- The lorica fragment no. 16 was found in 1970 in refuse levels, cf, KALEE, 1984. Characteristic for the metal objects from these levels is the excellent conservation and the bog-patina on bronze and copper items. A curious phenomenon is also the marked 'peaty' smell which clung to the objects despite rigorous cleaning, thus betraying the find location of both sherds and metal items years later.
46. VAN TENT, 1973a, 128-129; VAN TENT, 1976, 61-62
47. Personal observation, as well as coins in private collections which came from the refuse levels. Dr C. van Driel-Murray also informs me that footwear typical of the first third of the 3rd century is present in the same private collections.
48. The fragment was discovered near the south gate (pers. comm. A. Mees, December 1987). See REMOUCHAMPS, 1928, Afb. II at E (porta praetoria). This presumably incorrect nomenclature is corrected in BOGAERS & RÜGER, 1974, Abb. 18 'porta decumana'. Both side entrances are repeatedly indicated in the wrong position in older literature. For a corrected plan of the Vechten fort see BOGAERS & RÜGER op. cit., Bogaers 1974, 212, fig. 4.
49. E.g. from Eining, Straubing and Gherla (GARBSCH, 1978, 46, A5-A6; 49 B15-B20; 58-59, K1-K2 resp.)
50. BOGAERS, 1974, 210-216. BOGAERS & RÜGER, 1974, 64 give the date for the cohort I Flavia Hispanorum equitata as 78/80-c. 100. The ala I Thracum is commemorated by a tombstone unearthed in Vechten in the 17th century (CIL XIII, 8818, cf. BOGAERS, 1974, 210, Pl. XXVI.3). The stone was erected by Bititralis, for his son Valens, a veteran of the ala I Thracum. It is to be dated to the second quarter of the 2nd century at the very earliest.
- Numerous graffiti on terra sigillata dating predominantly to the 2nd century, with a few pieces of the first half of the 3rd century, refer to unspecified turmae (OXE, 1922, 86-87; RITTERLING, 1922, 87-88). Finally there is a turma inscription on an iron spear

point, found in the 1893 excavations, and probably from the refuse levels, also in view of the good preservation (MULLER, 1895, 135, 150, Pl. VII; OXE, 1922, 87)

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